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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/045,946 | CUPIT, CARL E. | |
| | Examiner Alexis Wachtel | Art Unit 1764 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to amd filed 7-10-06.
2. The allowed claim(s) is/are 1-4,6-8,10-14.
3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some*
 - c) None
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.

Detailed Action

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard Moseley on 8-22-06.

The application has been amended as follows:

4. (twice amended) A method of detecting a foam level in a delayed coking drum comprising:

- (a) placing a plurality of linear radiation detectors along the height of said drum;
- (b) placing a radiation source on said drum opposite said radiation detectors;
- (c) calibrating each of said radiation detectors to read zero per cent level at the radiation count of the detector when only hydrocarbon vapors are present in the drum adjacent to the detectors;
- (d) calibrating the output each of said radiation detectors to read one hundred per cent when no radiation is detected;
- (e) detecting radiation as a percentage of the height of each radiation detector as radiation is blocked by the foam level rising in the coke drum;
- (f) multiplying the percentage reading for each detector by the fraction of height each detector is in relation to the total height of all the detectors to give a product; and

(g) (f) summing all of the resulting products to give a foam level;
(h) wherein the output of each detector is recalibrated after the feed is started to
read 100 per cent when the radiation count of the next higher detector begins to fall.

Cancel claims 5 and 9.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance: with respect to claim 1, Benson does not teach a radiation source directly across the coke drum from said radiation detectors. It would not have been obvious to have placed radiation source across coke drum from said radiation detectors since the scheme used by Benson relies on a back scattering technique whereby neutrons are emitted from the radiation source and bounce back to detectors to give the desired reading and requires that the radiation source and detectors be placed proximal to each other as shown in Fig.3-5 of the Benson reference.

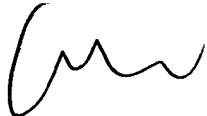
With respect to claims 4 and 14, Benson does not teach recalibration as claimed. No teaching or suggestion is found in the relied on art. More over, Benson teaches away from recalibration since there appears to be absolutely no need for calibration given the accuracy of the Benson's system.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Wachtel whose telephone number is 571-272-1455. The examiner can normally be reached on 10:30am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached at (571)-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700